

County

Borough



of Bolton.

# ANNUAL REPORT

OF THE

Medical Officer of Health

FOR

1944.

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BOLTON :

H. PEINE & SONS, CENTRAL STREET,  
1945



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72700



PUBLIC HEALTH DEPARTMENT,  
CIVIC CENTRE,  
BOLTON.

July, 1945.

**To the Chairman and Members of the Public Health  
Committee :**

LADIES AND GENTLEMEN,

I have the honour to present the Report for 1944, the seventy-third Annual Report on the Health of Bolton.

There is still considerable preventable illness and loss of life, but in all the circumstances of the fifth year of war the general health record of the town must give considerable satisfaction. Births continued to increase to 2,894 compared with 2,607 in the previous year and 2,289 in 1938. Deaths numbered 2,226 compared with 2,324 in the previous year and 2,235 in 1938. The excess of births over deaths was 668. The number of phthisis deaths fell to 62 compared with 79 in the previous year and 75 in 1938. Infectious disease rates were very low. There were only five Diphtheria deaths.

The Infant Mortality rate of 57·4 Infant deaths per 1,000 live births was an increase on the rate of 50 for the previous year. Similarly, the still-birth rate showed an increase on the 1943 rate. There is room for a considerable reduction in the number of still-births and infant deaths. The number of Cancer deaths remains high compared with the number of Cancer deaths in past years. Forty years ago, 133 Cancer deaths were recorded in Bolton. In 1944, the number recorded was 308.

The number of cases of Venereal Disease treated continues to increase. Regulation 33B has been of limited value in tracing contacts because the information supplied is often insufficient to identify the person concerned.

Hospital beds were reserved in Townleys Hospital during the year for the treatment of Service cases. There has been a corresponding shortage of beds for the civilian population. Hospital treatment has not been immediately available for many older and chronic patients. Considerable unavoidable hardship resulted.

The arrangements set up under the Bolton Clinical Laboratories were terminated at the end of the year at the request of the Bolton Royal Infirmary.

I would like again to record my sincere appreciation of the encouragement and support given by the Chairman and Members of the Committee, and to the Staff of the Public Health Department in all the difficulties of war-time administration.

I am, Ladies and Gentlemen,

Your obedient Servant,

R. M. GALLOWAY,

*Medical Officer of Health and School Medical Officer.*

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SUMMARY OF STATISTICS.  
1944.

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COUNTY BOROUGH OF BOLTON.

|                                                                  |     |     |     |                                  |  |
|------------------------------------------------------------------|-----|-----|-----|----------------------------------|--|
| Position                                                         | ..  | ... | ... | Lat. 53° 35' N., Long. 2° 27' W. |  |
| Elevation above sea level                                        | ... | ... | ... | 230-ft. to 1,450-ft.             |  |
| Geological Formation : Boulder Clay and Sand over Coal Measures. |     |     |     |                                  |  |
| Rainfall (Av. 1887-1944, 42.685")                                | ... | ... | ... | 50.512"                          |  |
| Area in Acres (Land and Inland Water)                            | ... | ... | ... | 15,280                           |  |
| Population (Census 1921)                                         | ... | ... | ... | 178,683                          |  |
| ,, (Census 1931)                                                 | ... | ... | ... | 177,250                          |  |
| ,, (Estimated Civilian Population, 1944)                         | ... | ... | ... | 153,940                          |  |
| Persons per acre                                                 | ... | ... | ... | 10.07                            |  |
| Inhabited Houses (Census 1921)                                   | ... | ... | ... | 41,825                           |  |
| ,, ,, (Census 1931)                                              | ... | ... | ... | 46,618                           |  |
| Private Families or Separate Occupiers (Census 1921)             | ... | ... | ... | 42,635                           |  |
| ,, ,, ,, ,, (Census 1931)                                        | ... | ... | ... | 47,706                           |  |
| New Houses Certified 1944                                        | ... | ... | ... | 1                                |  |
| Estimated No. of Houses in the Borough at 31st December, 1944    | ... | ... | ... | 53,078                           |  |
| Rateable Value at 1st November, 1944                             | ... | ... | ... | £1,137,946                       |  |
| Sum represented by a Penny Rate (1943-44)                        | ... | ... | ... | £4,300                           |  |
| Births                                                           | ... | ... | ... | 2,894                            |  |
| Birth-rate (per 1,000 of population)                             | ... | ... | ... | 17.17                            |  |
| Deaths                                                           | ... | ... | ... | 2,226                            |  |
| Death-rate (Crude) (per 1,000 of population)                     | ... | ... | ... | 14.46                            |  |

*SUMMARY—Continued.*

|                                                                    |     |     |     |     |     |     |      |
|--------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|------|
| Still-Births...                                                    | ... | ... | ... | ... | ... | ... | 126  |
| Still-Birth Rate (per 1,000 total Births)                          | ... | ... | ... | ... | ... | ... | 41.7 |
| Average Death-rate (1935-1944)                                     | ... | ... | ... | ... | ... | ... | 14.3 |
| Heart and Circulation Death-rate                                   | ... | ... | ... | ... | ... | ... | 3.8  |
| Cancer Death-rate...                                               | ... | ... | ... | ... | ... | ... | 2.0  |
| Respiratory Death-rate                                             | ... | ... | ... | ... | ... | ... | 1.6  |
| Phthisis Death-rate                                                | ... | ... | ... | ... | ... | ... | .53  |
| Infantile Mortality (Deaths under one year per 1,000 live births)  | ... | ... | ... | ... | ... | ... | 57.4 |
| Diarrhœa Death-rate (Deaths under two years per 1,000 live births) | ... | ... | ... | ... | ... | ... | 4.1  |
| Puerperal Death-rate (per 1,000 total births)                      | ... | ... | ... | ... | ... | ... | 3.31 |

**ENGLAND AND WALES :—**

|                                                                            |     |      |
|----------------------------------------------------------------------------|-----|------|
| Birth-rate (per 1,000 of mid-1939 population)                              | ... | 17.6 |
| Death-rate (per 1,000 of mid-1939 population)                              | ... | 11.6 |
| Infantile Mortality (Deaths under one year per 1,000 live births)          | ... | 46   |
| Diarrhœa and Enteritis (under two years), Death-rate per 1,000 live births | ... | 4.8  |

## STATISTICS.

### Births.

There were 2,894 live births to Bolton residents in 1944, 1,545 being males and 1,349 females. 2,729 of these births were legitimate and 165 illegitimate. 980 births occurred to Bolton residents in Townleys Hospital, 442 in Haslam Maternity Home, and 334 in Havercroft Maternity Home. The birth-rate per 1,000 of the population was 17·17.

### Still-births.

The number of still-births in Bolton in 1944 was 126, giving a still-birth rate of 41·7 per 1,000 total births.

### Deaths.

Bolton had 2,226 deaths (1,090 males, 1,136 females) in 1944, giving a death-rate of 14·4 per 1,000 of the population.

During the year, 613 persons, whose usual place of residence was in the area of this county borough, died outside the borough; of these, 493 died in Townleys Hospital or Fishpool Institution and 45 died in Mental Hospitals.

Non-residents who died in the area numbered 129, of whom 107 died in Bolton Royal Infirmary.

177 Bolton residents died in Bolton Royal Infirmary.

### SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1944.

|                                             | No. of<br>Deaths | Per cent. of<br>total Deaths |
|---------------------------------------------|------------------|------------------------------|
| INFECTIOUS AND PARASITIC DISEASES ...       | 146              | 6·558                        |
| Measles ... ..                              | 5                | ·224                         |
| Diphtheria ... ..                           | 5                | ·224                         |
| Influenza ... ..                            | 24               | 1·078                        |
| Pulmonary tuberculosis ... ..               | 62               | 2·784                        |
| Other forms of tuberculosis ... ..          | 21               | ·943                         |
| Syphilis ... ..                             | 15               | ·673                         |
| Other infectious and parasitic diseases ... | 14               | ·628                         |

|                                              | No. of<br>Deaths | Per cent. of<br>total Deaths |
|----------------------------------------------|------------------|------------------------------|
| CANCER AND OTHER TUMOURS ... ..              | <b>308</b>       | <b>13·836</b>                |
| Cancer ... ..                                | 296              | 13·297                       |
| Tumours (non-malignant or undetermined)      | 12               | ·539                         |
| RHEUMATISM, DISEASES OF NUTRITION, ETC. ...  | <b>35</b>        | <b>1·572</b>                 |
| Rheumatic fever ... ..                       | 3                | ·134                         |
| Chronic rheumatism, osteo-arthritis, etc.... | 5                | ·224                         |
| Diabetes ... ..                              | 20               | ·898                         |
| Diseases of Thyroid... ..                    | 5                | ·224                         |
| Other diseases ... ..                        | 2                | ·089                         |
| DISEASES OF THE BLOOD AND BLOOD FORMING      |                  |                              |
| ORGANS ... ..                                | <b>27</b>        | <b>1·212</b>                 |
| Anæmias ... ..                               | 22               | ·988                         |
| Leukæmia, aleukæmia ... ..                   | 2                | ·089                         |
| Other diseases ... ..                        | 3                | ·134                         |
| DISEASES OF THE NERVOUS SYSTEM AND SENSE     |                  |                              |
| ORGANS ... ..                                | <b>330</b>       | <b>14·824</b>                |
| Meningitis ... ..                            | 3                | ·134                         |
| Convulsions in children under 5 years of age | 9                | ·404                         |
| Cerebral hæmorrhage ... ..                   | 218              | 9·793                        |
| Cerebral embolism and thrombosis ...         | 78               | 3·504                        |
| Mental disorders and deficiency ... ..       | 1                | ·044                         |
| Epilepsy ... ..                              | 6                | ·269                         |
| Other diseases ... ..                        | 15               | ·673                         |
| DISEASES OF THE CIRCULATORY SYSTEM ...       | <b>603</b>       | <b>27·133</b>                |
| Heart diseases ... ..                        | 551              | 24·750                       |
| Arterio-sclerosis ... ..                     | 38               | 1·707                        |
| Gangrene ... ..                              | 4                | ·179                         |
| Other diseases ... ..                        | 10               | ·449                         |
| DISEASES OF THE RESPIRATORY SYSTEM ...       | <b>265</b>       | <b>11·904</b>                |
| Bronchitis ... ..                            | 142              | 6·379                        |
| Pneumonia ... ..                             | 88               | 3·953                        |
| Pleurisy ... ..                              | 3                | ·134                         |
| Congestion of lungs, etc. ... ..             | 11               | ·494                         |
| Asthma ... ..                                | 9                | ·404                         |
| Other diseases ... ..                        | 12               | ·539                         |

|                                                   | No. of<br>Deaths | Per cent. of<br>total Deaths |
|---------------------------------------------------|------------------|------------------------------|
| DISEASES OF THE DIGESTIVE SYSTEM ...              | 80               | 3·593                        |
| Ulcer of the stomach or duodenum ...              | 16               | ·718                         |
| Diarrhœa and enteritis ...                        | 19               | ·853                         |
| Appendicitis ...                                  | 7                | ·314                         |
| Hernia and intestinal obstruction ...             | 18               | ·808                         |
| Cirrhosis of the liver ...                        | 4                | ·179                         |
| Diseases of the gall bladder and ducts ...        | 5                | ·224                         |
| Other diseases ...                                | 11               | ·494                         |
| DISEASES OF THE URINARY AND GENITAL<br>SYSTEMS... | 87               | 3·908                        |
| Nephritis ...                                     | 52               | 2·336                        |
| Diseases of the prostate ...                      | 23               | 1·033                        |
| Other diseases ...                                | 12               | ·539                         |
| THE PUERPERAL STATE ...                           | 10               | ·441                         |
| DISEASES OF THE SKIN AND CELLULAR TISSUE          | 5                | ·224                         |
| CONGENITAL MALFORMATIONS ...                      | 28               | 1·257                        |
| DISEASES OF EARLY INFANCY ...                     | 72               | 3·234                        |
| Congenital debility ...                           | 3                | ·134                         |
| Premature birth ...                               | 57               | 2·560                        |
| Injury at birth ...                               | 7                | ·314                         |
| Other diseases ...                                | 5                | ·224                         |
| OLD AGE ...                                       | 153              | 6·873                        |
| DEATHS FROM VIOLENCE...                           | 72               | 3·234                        |
| Suicide ...                                       | 13               | ·584                         |
| Accidents ...                                     | 58               | 2·605                        |
| Other violent deaths ...                          | 1                | ·044                         |
| MISCELLANEOUS CAUSES ...                          | 5                | ·224                         |

### Deaths from Puerperal Causes.

Maternal mortality is the number of deaths of women classed to pregnancy and child-bearing. It is expressed as the rate per 1,000 births (live and still), and is sub-divided into the deaths due to puerperal sepsis, including septic abortion, and the deaths due to all other causes arising from pregnancy and the puerperium.

There were 10 deaths from puerperal causes in 1944, giving a maternal mortality-rate of 3·31. The rate for England and Wales was 1·93.

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|                        | Deaths | BOLTON<br>Rate per 1000<br>total births | ENGLAND & WALES<br>Rate per 1000<br>total births |
|------------------------|--------|-----------------------------------------|--------------------------------------------------|
| Puerperal sepsis ...   | 3      | —                                       | .42                                              |
| Other puerperal causes | 7      | 1.11                                    | 1.59                                             |
| Total ...              | 10     | 1.11                                    | 2.01                                             |

In addition to the 10 deaths directly due to pregnancy and child-bearing, there were two deaths where pregnancy was a contributory cause. The deaths were assigned to (1) Broncho-pneumonia, and (2) Lobar Pneumonia.

## Death-rate of Infants under One Year of Age.

The death-rate of infants is expressed as the number of deaths under one year per 1,000 live births, and is called the infantile mortality-rate. There were 166 such deaths during the year.

Bolton's infant mortality-rate for 1944 was 57.4. The figure for England and Wales was 46, the lowest on record.

Of Bolton's 2,894 live births, 2,729 were legitimate and 165 illegitimate.

The infantile mortality amongst the legitimate children was 54.9, and amongst the illegitimate 97.

## Deaths under Four Weeks.

The part of the infantile mortality which occurs in the first four weeks of life is called the neo-natal mortality. There were 34.5 deaths of infants under 4 weeks per 1,000 live births.

The causes of death during the first four weeks of life were as follows :—

| CAUSES OF DEATH             | 0—7<br>days | 8—14<br>days | 15—21<br>days | 22—28<br>days | Total<br>under<br>29 days |
|-----------------------------|-------------|--------------|---------------|---------------|---------------------------|
| Prematurity... ..           | 32          | 9            | 7             | 3             | 51                        |
| Congenital Malformations... | 12          | 1            | 3             | 1             | 17                        |
| Birth Injuries ... ..       | 4           | 2            | 1             | —             | 7                         |
| Pneumonia ... ..            | —           | 1            | 2             | 3             | 6                         |
| Congenital Debility...      | 2           | —            | 2             | 1             | 5                         |
| Atelectasis ... ..          | 3           | —            | —             | 1             | 4                         |
| Diarrhoea and Enteritis ... | —           | —            | 1             | 2             | 3                         |
| Congenital Syphilis...      | —           | 2            | —             | —             | 2                         |
| Other Diseases ... ..       | 1           | 2            | —             | 2             | 5                         |
| Totals ... ..               | 54          | 17           | 16            | 13            | 100                       |

## GENERAL PROVISION OF HEALTH SERVICES.

### LABORATORY FACILITIES.

The Laboratory facilities were provided by the Bolton Clinical Laboratories. This combined service was controlled by a Joint Committee with five representatives from the Royal Infirmary and five from the Council which administered all the services in Bacteriology and Pathology for the Royal Infirmary and the Local Authority. It employed two whole-time Pathologists and a staff of technicians in the laboratories of the Royal Infirmary and Townleys Hospital. During the year the Royal Infirmary gave notice to the Council terminating the agreement and the Bolton Clinical Laboratories ceased functioning as a Joint Service in December, 1944.

### EXAMINATIONS CARRIED OUT DURING 1944.

|                      | Bolton<br>Royal Infirmary<br>Laboratory | Townleys<br>Hospital<br>Laboratory | Borough<br>Isolation Hospital<br>Laboratory |
|----------------------|-----------------------------------------|------------------------------------|---------------------------------------------|
| Agglutination ...    | 600                                     | 262                                | 1254                                        |
| Bacteriological ...  | 4608                                    | 1938                               |                                             |
| Haematological ...   | 3740                                    | 1561                               |                                             |
| Blood Examinations   | 4976                                    | 1368                               |                                             |
| Plasma Preparation   | 250                                     | —                                  |                                             |
| Cerebro Spinal Fluid | 314                                     | 143                                |                                             |
| Faeces ...           | 615                                     | 82                                 |                                             |
| Gastric Analysis ... | 3888                                    | 741                                |                                             |
| Histology ...        | 1420                                    | 416                                |                                             |
| Inoculations...      | 353                                     | 73                                 |                                             |
| Urines ...           | 4089                                    | 2181                               |                                             |
| Pregnancy Tests ...  | 185                                     | —                                  |                                             |
| Post Mortems ...     | 195                                     | 21                                 |                                             |
| Various ...          | 81                                      | 21                                 |                                             |
| Totals ...           | 25314                                   | 8807                               | 1254                                        |

The figures for the Bolton Royal Infirmary Laboratory include various specimens from Townleys Hospital, the Borough Hospital, and from General Practitioners in relation to infectious diseases. They also include 407 sputa from the Dispensary for examination for Tuberculosis and 288 milks for the inoculation test for Tuberculosis. Eleven of the milks gave positive results for Tuberculosis.

The following specimens were sent for examination to the Public Health Laboratories of Manchester University :—

|                          |        |                                     |
|--------------------------|--------|-------------------------------------|
| Wassermann reaction...   | ...    | 3605 (including 1020 Blood Donors). |
| Kahn test                | ... .. | 74                                  |
| Gonorrhoea :             |        |                                     |
| Microscopical test       | ...    | 10                                  |
| Complement fixation test |        | 649                                 |

Medical Officers of the Venereal Diseases Department in the course of routine clinical work examined 2,755 smears for the gonococcus and 30 slides by dark ground illumination for syphilis.

#### PROFESSIONAL NURSING IN THE HOME.

The Bolton District Nursing Association provides nursing in the home for all cases of illness other than certain infectious diseases and maternity nursing.

During the year, 1,946 cases were nursed, and these received a total of 59,800 visits. The nurses were also present at 80 operations.

The Bolton Corporation makes an annual grant of £400 to the funds of the Association. The Public Health Committee pays for any home nursing of the following diseases : puerperal pyrexia, measles, whooping cough, epidemic diarrhoea, ophthalmia neonatorum, tuberculosis and influenzal pneumonia.

#### Hospitals.

##### THE BOLTON ROYAL INFIRMARY.

During the year under review the number of cases admitted was 4,376, of whom approximately 40 per cent. were from outside the Borough of Bolton. In addition, 14,351 cases were dealt with as out-patients and 12,606 cases were received into the casualty department. At the end of the year there were 894 patients on the waiting list for admission.

The Edmund Potter Hospital, an auxiliary to the Bolton Royal Infirmary, has 43 beds for females. All the patients who are admitted are sent from the Bolton Royal Infirmary for convalescence. 793 patients were admitted during the year.

The Blair Convalescent Hospital, Bromley Cross, is a voluntary institution with 42 beds for male patients only. 522 cases were admitted in 1944.

#### TOWNLEYS HOSPITAL.

The following statistical return relates to the year ended 31st December, 1944 :—

|                                                                                |       |
|--------------------------------------------------------------------------------|-------|
| Total No. of admissions (including infants born in hospital) ... ..            | 6,070 |
| No. of women confined in hospital ... ..                                       | 1,614 |
| No. of live births ... ..                                                      | 1,561 |
| No. of stillbirths ... ..                                                      | 78    |
| No. of deaths among children under 4 weeks of age (born in hospital) ... ..    | 76    |
| Total No. of deaths among children under 1 year ...                            | 107   |
| No. of maternal deaths among women admitted to hospital for confinement ... .. | 12    |
| Total No. of deaths ... ..                                                     | 562   |
| Total No. of discharges (including infants born in hospital) ... ..            | 5,629 |
| No. of cases whose total stay was for the following periods :—                 |       |
| (a) Under 4 weeks ... ..                                                       | 4,796 |
| (b) 4 weeks and under 13 weeks ... ..                                          | 813   |
| (c) 13 weeks or more ... ..                                                    | 241   |
| No. of beds occupied (excluding cots in maternity wards) :—                    |       |
| (a) Average during year ... ..                                                 | 379   |
| (b) Highest (22nd March, 1944) ... ..                                          | 508   |
| (c) Lowest (10th June, 1944) ... ..                                            | 231   |
| No. of operations under general anæsthetic... ..                               | 832   |
| Ante-natal Clinic :—                                                           |       |
| Total No. of expectant mothers seen ... ..                                     | 1,738 |
| No. of attendances ... ..                                                      | 9,886 |

**Classification of In-Patients who were Discharged from or who Died in Townleys Hospital during the year, including Service Patients of the Allied Forces and Prisoners of War.**

| DISEASE GROUPS                                  |                                                                                                                       |           |     |     |     | Children<br>(under 16<br>years of age) |      | Men<br>and<br>Women |      |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------|-----|-----|-----|----------------------------------------|------|---------------------|------|
|                                                 |                                                                                                                       |           |     |     |     | Dis-<br>charged                        | Died | Dis-<br>charged     | Died |
| A.                                              | Acute infectious disease (1)                                                                                          | ...       | ... | ... | ... | 7                                      | 1    | 7                   | —    |
| B.                                              | Influenza (2)                                                                                                         | ...       | ... | ... | ... | —                                      | —    | —                   | —    |
| C.                                              | Tuberculosis :                                                                                                        |           |     |     |     |                                        |      |                     |      |
|                                                 | Pulmonary                                                                                                             | ...       | ... | ... | ... | —                                      | —    | 13                  | 12   |
|                                                 | Non-pulmonary                                                                                                         | ...       | ... | ... | ... | —                                      | 1    | 3                   | 4    |
| D.                                              | Malignant disease                                                                                                     | ...       | ... | ... | ... | —                                      | —    | 52                  | 67   |
| E.                                              | Rheumatism :                                                                                                          |           |     |     |     |                                        |      |                     |      |
|                                                 | (1) Acute rheumatism (rheumatic fever) together with sub-acute rheumatism and chorea                                  | ...       | ... | ... | ... | 10                                     | —    | 13                  | —    |
|                                                 | (2) Non-articular manifestations of so-called "rheumatism" (muscular rheumatism, fibrositis, lumbago and sciatica)... | ...       | ... | ... | ... | 8                                      | —    | 4                   | —    |
|                                                 | (3) Chronic arthritis                                                                                                 | ...       | ... | ... | ... | 5                                      | —    | 12                  | —    |
| F.                                              | Venereal disease                                                                                                      | ...       | ... | ... | ... | —                                      | 2    | 15                  | 2    |
| G.                                              | Puerperal pyrexia:                                                                                                    |           |     |     |     |                                        |      |                     |      |
|                                                 | (a) Women confined in the hospital                                                                                    | ...       | ... | ... | ... | —                                      | —    | 7                   | —    |
|                                                 | (b) Other cases                                                                                                       | ...       | ... | ... | ... | —                                      | —    | 2                   | —    |
| H.                                              | Other diseases and accidents connected with pregnancy and childbirth                                                  | ...       | ... | ... | ... | —                                      | —    | 521                 | 11   |
| I.                                              | Mental diseases :                                                                                                     |           |     |     |     |                                        |      |                     |      |
|                                                 | (a) Senile Dementia                                                                                                   | ...       | ... | ... | ... | —                                      | —    | 2                   | —    |
|                                                 | (b) Other                                                                                                             | ...       | ... | ... | ... | —                                      | —    | —                   | —    |
| J.                                              | Senile decay (3)                                                                                                      | ...       | ... | ... | ... | —                                      | —    | 69                  | 66   |
| K.                                              | Accidental injury and violence (4)                                                                                    | ...       | ... | ... | ... | 6                                      | —    | 155                 | 2    |
| <i>In respect of cases not included above :</i> |                                                                                                                       |           |     |     |     |                                        |      |                     |      |
| L.                                              | Disease of the Nervous System and Sense Organs                                                                        | ...       | ... | ... | ... | 41                                     | 8    | 146                 | 42   |
| M.                                              | " " Respiratory System                                                                                                | ...       | ... | ... | ... | 314                                    | 10   | 215                 | 28   |
| N.                                              | " " Circulatory System                                                                                                | ...       | ... | ... | ... | 10                                     | 11   | 191                 | 174  |
| O.                                              | " " Digestive System                                                                                                  | ...       | ... | ... | ... | 72                                     | 21   | 197                 | 8    |
| P.                                              | " " Genito-urinary System                                                                                             | ...       | ... | ... | ... | 10                                     | —    | 187                 | 26   |
| Q.                                              | " " Skin                                                                                                              | ...       | ... | ... | ... | 56                                     | 3    | 35                  | —    |
| R.                                              | Other diseases                                                                                                        | ...       | ... | ... | ... | —                                      | —    | —                   | —    |
| S.                                              | Mothers and infants discharged ...                                                                                    |           |     |     |     |                                        |      |                     |      |
|                                                 | from Maternity Wards and not included in above figures                                                                | { Mothers |     | ... | ... | —                                      | —    | 1568                | —    |
|                                                 |                                                                                                                       | { Infants |     | ... | ... | 1446                                   | —    | —                   | —    |
| T.                                              | Any persons not falling under any of the above headings                                                               | ...       | ... | ... | ... | 54                                     | 58   | 176                 | 5    |
| TOTALS                                          |                                                                                                                       |           |     |     |     | 2039                                   | 115  | 3590                | 447  |

(1) Includes—with the exception of Acute Primary and Influenzal Pneumonia, Tuberculosis, Puerperal Pyrexia—all generally notifiable diseases, together with Measles, German Measles, Chickenpox, Whooping Cough and Mumps. Cases of Influenzal Pneumonia, Tuberculosis, Puerperal Pyrexia, and Acute Primary Pneumonia are recorded respectively under Groups B, C, G and M. Cases of Encephalitis Lethargica are entered under Group A if acute and under Group L if chronic.

(2) Includes Acute Influenzal Pneumonia.

(3) Confined to cases and deaths in which no more specific diagnosis was practicable.

(4) Includes suicides, attempted suicides and poisoning cases

## MATERNITY AND CHILD WELFARE.

## Midwifery and Ante-Natal Work.

## I—DOMICILIARY.

The following figures give a statistical summary of the work in relation to domiciliary midwifery for the year :—

- (a) Ante-natal clinics—Public Health Department (2 weekly).  
426 expectant mothers attended for the first time. The total attendances were 1,292.  
71 X-ray examinations were made.
- (b) Confinements conducted by midwives.  
1,125 confinements were conducted by midwives.
- (c) Confinements conducted by medical practitioners.  
In addition to the 266 cases where practitioners were called in by the midwives, the doctors conducted approximately 236 confinements in patients' homes.

The following table gives particulars of the domiciliary midwives' work during the year :—

|                                                                 |       |     |       |
|-----------------------------------------------------------------|-------|-----|-------|
| No. of midwives who have practised...                           | ...   | ... | 29    |
| No. of cases attended ...                                       | ...   | ... | 1,125 |
| Average No. of cases per midwife ...                            | ...   | ... | 47    |
| No. of calls for medical aid ...                                | ...   | ... | 266   |
| Per cent. of cases in which medical aid was sought              | 23·6% |     |       |
| No. of midwives on the register at the beginning of the year... | ...   | ... | 29    |
| No. who ceased to practise in Bolton                            | ...   | ... | 3     |
| No. on the register at the end of the year                      | ...   | ... | 26    |

In addition to the above, the midwives attended 236 cases as maternity nurses.

The following 328 notifications were received from domiciliary midwives in accordance with the regulations of the Central Midwives Board :—

|                                    |     |     |     |     |     |
|------------------------------------|-----|-----|-----|-----|-----|
| Medical assistance                 | ... | ... | ... | ... | 266 |
| Still-births                       | ... | ... | ... | ... | 29  |
| Artificial feeding                 | ... | ... | ... | ... | 31  |
| Death of mother or child           | ... | ... | ... | ... | 2   |
| Liable to be a source of infection | ... | ... | ... | ... | —   |

When a family is not eligible for maternity benefit under the National Health Insurance Acts and the family income falls below a scale approved by the Council, the Public Health Committee pay the midwife's fee for her work at a confinement. During the year 212 such fees were paid.

Home helps were provided in 167 instances. In 76 cases part of the fees were recovered and in 2 cases the whole of the fees were recovered.

#### MUNICIPAL MIDWIVES.

During the year, the nine midwives appointed attended 657 cases, 620 as midwifery cases and 37 as maternity cases, or an average of 73 cases per midwife.

The midwives paid 14,329 ante-natal and post-natal visits to their patients during the year.

#### 2—INSTITUTIONAL MIDWIFERY.

##### (a) TOWNLEYS HOSPITAL.

Three ante-natal clinics are held weekly: During the year, 1,738 patients attended the clinics, 1,404 of whom were Bolton cases.

The following particulars relate to the maternity cases admitted during 1944 from Bolton and from the county areas served. Approximately 70 per cent. of the cases were from Bolton.

|                                                                                                                    |     |     |     |     |            |
|--------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|------------|
| 1. No. of maternity beds                                                                                           | ... | ... | ... | ... | 99         |
| 2. No. of beds, included in above, allocated to, and reserved for, expectant mothers in need of hospital treatment | ... | ... | ... | ... | 27         |
| 3. No. of cases admitted                                                                                           | ... | ... | ... | ... | 1,942      |
| 4. No. of women treated in the beds shown against item 2                                                           | ..  | ... | ... | ... | 515        |
| 5. Average duration of treatment of expectant mothers in the beds shown against item 2                             | ... | ... | ... | ... | 7·68 days  |
| 6. Average duration of stay of cases in the lying-in Wards                                                         | ... | ... | ... | ... | 12·16 days |
| 7. No. of cases notified as *Puerperal pyrexia                                                                     | ... | ... | ... | ... | 10         |
| *i.e., rise of temperature to 100·4° F. for 24 hours, or recurrence within that period.                            |     |     |     |     |            |
| 8. No. of cases of pemphigus neonatorum                                                                            | ... | ... | ... | ... | 2          |

|                                                              |     |     |     |     |     |     |
|--------------------------------------------------------------|-----|-----|-----|-----|-----|-----|
| 9. No. of infants not entirely breast fed whilst in hospital | ... | ... | ... | ... | ... | 263 |
| 10. No. of cases of ophthalmia neonatorum                    | ... | ... | ... | ... | ... | Nil |
| 11. No. of maternal deaths                                   | ... | ... | ... | ... | ... | 11  |
| 12. No. of infant deaths :—                                  |     |     |     |     |     |     |
| (a) Stillborn...                                             | ... | ... | ... | ... | ... | 78  |
| (b) Within 10 days of birth                                  | ... | ... | ... | ... | ... | 49  |

(b) HASLAM MATERNITY HOME.

Three Ante-natal Clinics are held weekly. During the year, 386 patients attended for the first time. The total number of attendances was 3,193. The X-ray examinations numbered 44.

The following table gives particulars of all cases admitted to the Home in 1944 :—

|                                                                                                                                      |     |     |     |     |     |       |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-------|
| No. of beds in the Home                                                                                                              | ... | ... | ... | ... | ... | 23    |
| No. of cases admitted                                                                                                                | ... | ... | ... | ... | ... | 454   |
| Average duration of stay in days                                                                                                     | ... | ... | ... | ... | ... | 12·69 |
| No. of cases delivered by :—                                                                                                         |     |     |     |     |     |       |
| (a) Midwives                                                                                                                         | ... | ... | ... | ... | ... | 352   |
| (b) Doctors                                                                                                                          | ... | ... | ... | ... | ... | 98    |
| No. of cases in which medical assistance was sought by the midwife                                                                   | ... | ... | ... | ... | ... | 57    |
| No. of cases notified as Puerperal Pyrexia (i.e., rise of temperature to 100·4°F. for 24 hours or its recurrence within that period) | ... | ... | ... | ... | ... | Nil   |
| No. of cases of pemphigus neonatorum                                                                                                 | ... | ... | ... | ... | ... | 2     |
| No. of infants not entirely breast fed whilst in the Home                                                                            | ... | ... | ... | ... | ... | 14    |
| No. of cases notified as ophthalmia neonatorum                                                                                       | ... | ... | ... | ... | ... | 1     |
| No. of maternal deaths                                                                                                               | ... | ... | ... | ... | ... | 1     |
| No. of infant deaths :—                                                                                                              |     |     |     |     |     |       |
| (a) Stillborn                                                                                                                        | ... | ... | ... | ... | ... | 11    |
| (b) Within 10 days of birth                                                                                                          | ... | ... | ... | ... | ... | 4     |

(c) HAVERCROFT MATERNITY HOME.

Two Ante-natal Clinics are held weekly. During the year, 275 patients attended for the first time. The total number of attendances was 1,625. The X-ray examinations numbered 23.

The following table gives particulars of all cases admitted to the Home in 1944 :—

|                                                                                                                                       |     |     |     |     |       |
|---------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-------|
| No. of beds in the Home                                                                                                               | ... | ... | ... | ... | 17    |
| No. of cases admitted                                                                                                                 | ... | ... | ... | ... | 339   |
| Average duration of stay in days                                                                                                      | ... | ... | ... | ... | 13·34 |
| No. of cases delivered by :—                                                                                                          |     |     |     |     |       |
| (a) Midwives                                                                                                                          | ... | ... | ... | ... | 243   |
| (b) Doctors                                                                                                                           | ... | ... | ... | ... | 92    |
| No. of cases in which medical assistance was sought by the midwife                                                                    | ... | ... | ... | ... | 82    |
| No. of cases notified as Puerperal Pyrexia (i.e., rise of temperature to 100·4°F. for 24 hours, or its recurrence within that period) | ... | ... | ... | ... | 3     |
| No. of cases of pemphigus neonatorum                                                                                                  | ... | ... | ... | ... | Nil   |
| No. of infants not entirely breast fed whilst in the Home                                                                             | ... | ... | ... | ... | 40    |
| No. of cases notified as ophthalmia neonatorum                                                                                        | ... | ... | ... | ... | 1     |
| No. of maternal deaths                                                                                                                | ... | ... | ... | ... | Nil   |
| No. of infant deaths :—                                                                                                               |     |     |     |     |       |
| (a) Stillborn                                                                                                                         | ... | ... | ... | ... | 11    |
| (b) Within 10 days of birth                                                                                                           | ... | ... | ... | ... | 6     |

#### DENTAL TREATMENT FOR EXPECTANT MOTHERS.

Nineteen expectant mothers who could not afford to make their own arrangements were treated by private dentists on behalf of the Public Health Department. Six dentures were provided. The reduction in the amount of this work is entirely due to war conditions.

#### HEALTH VISITORS.

The following table shows the work done by the Health Visitors :—

##### VISITS BY HEALTH VISITORS.

|                                              |     |     |     |     |       |
|----------------------------------------------|-----|-----|-----|-----|-------|
| Primary birth enquiries                      | ... | ... | ... | ... | 2,854 |
| Visits to children, 1—5 years...             | ... | ... | ... | ... | 7,549 |
| Primary visits to expectant mothers...       | ... | ... | ... | ... | 437   |
| Re-visits to infants under 1 year            | ... | ... | ... | ... | 6,198 |
| Re-visits to expectant mothers               | ... | ... | ... | ... | 271   |
| Visits to puerperal pyrexia cases            | ... | ..  | ..  | ..  | 7     |
| Visits to ophthalmia cases                   | ... | ... | ... | ... | 25    |
| Stillbirth enquiries                         | ... | ... | ... | ... | 121   |
| Death enquiries made (under one year of age) | ... | ... | ... | ... | 149   |
| „ „ „ (maternal)                             | ... | ... | ... | ... | Nil   |

|                            |     |     |     |     |               |
|----------------------------|-----|-----|-----|-----|---------------|
| Visits to midwives' houses | ... | ... | ... | ... | 25            |
| Visits—Children Act        | ... | ... | ... | ... | 10            |
| Miscellaneous visits       | ... | ... | ... | ... | 1,433         |
| Total Visits               |     |     |     |     | <u>19,079</u> |

#### WAR-TIME NURSERIES.

At the end of the year there were seven War-time Nurseries in the Borough, finding accommodation for the following number of children :—

|                      |     |     |     |     | Accommodation |           |
|----------------------|-----|-----|-----|-----|---------------|-----------|
|                      |     |     |     |     | By Day        | By Night  |
| Arkwright Street     | ... | ... | ... | ... | 44            | —         |
| 40, Chorley New Road | ... | ... | ... | ... | 35            | —         |
| " Vesperholme "      | ... | ... | ... | ... | 28            | 16        |
| " Woodlands "        | ... | ... | ... | ... | 44            | 29        |
| Newport Street       | ... | ... | ... | ... | 66            | —         |
| " Park House "       | ... | ... | ... | ... | 49            | 30        |
| Shaw Street          | ... | ... | ... | ... | 50            | —         |
| Totals               |     |     |     |     | <u>316</u>    | <u>75</u> |

#### MASSAGE AND ARTIFICIAL SUNLIGHT TREATMENT FOR INFANTS.

Treatment is provided for any debilitated and rickety children who are in attendance at the Child Welfare Centres. The treatments are given in the Massage and Light Clinic in the Public Health Department.

The number of massage cases treated in 1944 was 121, and these received a total of 1,885 treatments.

The number of light cases treated in 1944 was 353, and these received a total of 2,623 treatments.

#### SANITARY INSPECTION.

The nature and extent of the work done by the Sanitary Inspectors is shown in the following statement :—

1944.

|                 |     |     |     |     |     |     |        |
|-----------------|-----|-----|-----|-----|-----|-----|--------|
| INSPECTIONS.... | ... | ... | ... | ... | ... | ... | 27,080 |
|-----------------|-----|-----|-----|-----|-----|-----|--------|

## ACTION TAKEN.

|                                            |     |     |     |     |     |                   |
|--------------------------------------------|-----|-----|-----|-----|-----|-------------------|
| Verbal notices                             | ... | ... | ... | ... | ... | 698               |
| Informal notices served or letters written | ... | ... | ... | ... | ... | 1,669             |
| Legal notices served                       | ... | ... | ... | ... | ... | 347               |
|                                            |     |     |     |     |     | <hr/> 2,714 <hr/> |

## RESULT OF ACTION.

## DWELLINGS.

|                                                     |     |     |     |     |     |       |
|-----------------------------------------------------|-----|-----|-----|-----|-----|-------|
| Repairs to floors, walls, ceilings, roofs, spouting | ... | ... | ... | ... | ... | 1,445 |
| Additional windows provided...                      | ... | ... | ... | ... | ... | 13    |
| Windows repaired or made to open                    | ... | ... | ... | ... | ... | 226   |
| Sinks provided                                      | ... | ... | ... | ... | ... | 15    |
| Houses re-decorated                                 | ... | ... | ... | ... | ... | 30    |
| Verminous houses disinfested...                     | ... | ... | ... | ... | ... | 43    |

## DRAINAGE, CLOSETS, ASHPITS, ETC.

|                                        |     |     |     |     |     |     |
|----------------------------------------|-----|-----|-----|-----|-----|-----|
| Drains cleansed or repaired            | ... | ... | ... | ... | ... | 336 |
| Yards drained, paved or repaired       | ... | ... | ... | ... | ... | 8   |
| Additional W.C's provided              | ... | ... | ... | ... | ... | 11  |
| W.C's reconstructed or repaired        | ... | ... | ... | ... | ... | 115 |
| Flushing cisterns provided or repaired | ... | ... | ... | ... | ... | 91  |
| Closets converted                      | ... | ... | ... | ... | ... | 39  |
| Ashpits abolished                      | ... | ... | ... | ... | ... | 14  |
| Dustbins provided                      | ... | ... | ... | ... | ... | 104 |

## VARIOUS.

|                                                    |     |     |     |     |     |     |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Smoke nuisances abated                             | ... | ... | ... | ... | ... | 1   |
| Nuisances from animals abated                      | ... | ... | ... | ... | ... | —   |
| Offensive accumulations removed                    | ... | ... | ... | ... | ... | 60  |
| Improvements in factories, shops and food premises | ... | ... | ... | ... | ... | 103 |
| Cowshed or dairy improvements                      | ... | ... | ... | ... | ... | 21  |
| Miscellaneous                                      | ... | ... | ... | ... | ... | 573 |

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3,248

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## DISINFECTIONS.

|                      |     |     |     |     |     |        |
|----------------------|-----|-----|-----|-----|-----|--------|
|                      |     |     |     |     |     | 1944   |
| Houses disinfected   | ... | ... | ... | ... | ... | 1,170  |
| Articles disinfected | ... | ... | ... | ... | ... | 7,481* |
| Articles destroyed   | ... | ... | ... | ... | ... | 64     |

\*Includes fire-watchers' bedding.

## PLACES UNDER INSPECTION.

|                                       |     |     |     |     |     |     |
|---------------------------------------|-----|-----|-----|-----|-----|-----|
| Common lodging-houses                 | ... | ... | ... | ... | ... | 9   |
| Houses let in lodgings                | ... | ... | ... | ... | ... | 111 |
| Factories without mechanical power... | ... | ... | ... | ... | ... | 201 |
| Factories with mechanical power       | ... | ... | ... | ... | ... | 875 |
| Factory chimneys                      | ... | ... | ... | ... | ... | 187 |
| Bakehouses                            | ... | ... | ... | ... | ... | 382 |
| Fish friers' premises                 | ... | ... | ... | ... | ... | 180 |
| Premises where food is prepared       | ... | ... | ... | ... | ... | 297 |
| Outworkers' premises                  | ... | ... | ... | ... | ... | 9   |
| Offensive trades                      | ... | ... | ... | ... | ... | 19  |
| Slaughterhouses (in actual use)       | ... | ... | ... | ... | ... | 2   |
| Cowsheds                              | ... | ... | ... | ... | ... | 263 |
| Milk shops                            | ... | ... | ... | ... | ... | 732 |
| Theatres, cinemas, etc.               | ... | ... | ... | ... | ... | 30  |
| Public sanitary conveniences...       | ... | ... | ... | ... | ... | 31  |
| Travelling vans...                    | ... | ... | ... | ... | ... | 59  |

## Common Lodging-houses.

The number of registered common lodging-houses in Bolton at the end of the year was 9. Eight of these are used by males only and accommodate a total of 431 men. The other is used exclusively by women and accommodates 40.

## LEGAL PROCEEDINGS DURING 1944.

| DATE    | OFFENCE                                                                                                                                | RESULT         |
|---------|----------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 7/ 2/44 | SCABIES ORDER, 1941, ART. 2 (2) :<br>Failing to submit to a medical examination as required by a notice served under the Order         | Fined £5/0/0.  |
| 7/ 2/44 | SCABIES ORDER, 1941, ART. 2 (2) :<br>Failing to submit a child for medical examination, as required by a notice served under the Order | Fined £2/0/0.  |
| 7/ 2/44 | do.                                                                                                                                    | Fined £2/0/0.  |
| 7/ 2/44 | do.                                                                                                                                    | Fined £2/0/0.  |
| 7/ 2/44 | SCABIES ORDER, 1941, ART. 2 (2) :<br>Failing to submit to a medical examination as required by a notice served under the Order         | Fined £10/0/0. |
| 7/ 2/44 | do.                                                                                                                                    | Fined £2/0/0.  |
| 7/ 2/44 | PUBLIC HEALTH ACT, 1936, SEC. 83 :<br>Failing to cleanse a house which was filthy and verminous                                        | Fined £5/0/0.  |
| 9/ 3/44 | FOOD AND DRUGS ACT, 1938, SEC. 78 (2) :<br>Obstructing a sampling officer                                                              | Fined £15/0/0. |

Legal Proceedings during 1944—*continued.*

| DATE     | OFFENCE                                                                                                         | RESULT                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 9/ 3/44  | FOOD AND DRUGS ACT, 1938, SEC. 3<br>(1) :<br>Selling whisky not of the nature,<br>substance or quality demanded | Fined £10/0/0.<br>with 10/6 costs.                                                                                   |
| 9/ 3/44  | do.                                                                                                             | Fined £10/0/0<br>with 10/6 costs.                                                                                    |
| 16/ 3/44 | PUBLIC HEALTH ACT, 1936, SEC. 92 :<br>Premises in such a state as to be<br>prejudicial to health and a nuisance | Adjourned until<br>April 6th—Work<br>completed by<br>owner 5/4/44.<br>Summons with-<br>drawn on payment<br>of costs. |
| 16/ 3/44 | do.                                                                                                             | do.                                                                                                                  |
| 16/ 3/44 | do.                                                                                                             | do.                                                                                                                  |
| 16/ 3/44 | do.                                                                                                             | do.                                                                                                                  |
| 16/ 3/44 | do.                                                                                                             | do.                                                                                                                  |
| 30/ 3/44 | FOOD AND DRUGS ACT, 1938, SEC. 3 (1):<br>Selling milk not of the nature, sub-<br>stance or quality demanded     | Fined £5/0/0, with<br>10/6 costs.                                                                                    |
| 30/ 3/44 | do.                                                                                                             | do.                                                                                                                  |

Legal Proceedings during 1944—*continued.*

| DATE     | OFFENCE                                                                                                                   | RESULT                              |
|----------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 2/11/44  | FOOD AND DRUGS ACT, 1938, SEC.<br>3 (1) :<br>Selling baking powder not of the<br>nature, substance or quality<br>demanded | Fined £1/0/0, with<br>10/6 costs.   |
| 9/11/44  | do.                                                                                                                       | Fined £10/0/0 with<br>10/6 costs.   |
| 16/11/44 | FOOD AND DRUGS ACT, 1938, SEC.<br>3 (1) :<br>Selling milk not of the nature, sub-<br>stance or quality demanded           | Fined £10/0/0 with<br>£1/1/0 costs. |
| 16/11/44 | do.                                                                                                                       | Fined £10/0/0 with<br>£1/1/0 costs. |
| 16/11/44 | do.                                                                                                                       | Fined £10/0/0 with<br>£1/1/0 costs. |

## INSPECTION AND SUPERVISION OF FOOD.

## MILK.

## The Milk and Dairies Order, 1926.

|                                                   |                                |     |     |       |
|---------------------------------------------------|--------------------------------|-----|-----|-------|
| Cowkeepers                                        | on register, December, 1943... | ... | ... | 110   |
| „                                                 | added to register during 1944  | ... | ... | —     |
| „                                                 | discontinued during 1944       | ... | ... | —     |
| „                                                 | on register, December, 1944    | ... | ... | 110   |
| Cowsheds                                          | on register, December, 1943    | ... | ... | 262   |
| „                                                 | added to register during 1944  | ... | ... | 1     |
| „                                                 | discontinued during 1944       | ... | ... | —     |
| „                                                 | on register, December, 1944    | ... | ... | 263   |
| Number of cows provided for in the cowsheds, 1944 |                                |     |     | 2,970 |
| Average number of cows kept during the year       |                                |     |     | 2,787 |
| Number of dairies and premises of milk purveyors  |                                |     |     | 732   |

## Milk (Special Designations) Orders, 1936 and 1938.

The following licences were granted under these Orders during 1944 :—

|                                                                                                             |     |     |     |     |     |    |
|-------------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|----|
| Producer's licence to use the designation "Tuberculin Tested"                                               | ... | ... | ... | ... | ... | 3  |
| Supplementary licence to use the designation "Tuberculin Tested"                                            | ... | ... | ... | ... | ... | —  |
| Dealer's licence to use the designation "Tuberculin Tested"                                                 | ... | ... | ... | ... | ... | —  |
| Producer's licence to use the designation "Accredited"                                                      | ... | ... | ... | ... | ... | 15 |
| Supplementary licence to use the designation "Accredited"                                                   | ... | ... | ... | ... | ... | 4  |
| Dealer's licence to use the designation "Pasteurised" (Licence in respect of a Pasteurising establishment). | ... | ... | ... | ... | ... | 1  |
| Supplementary licence to use the designation "Pasteurised"                                                  | ... | ... | ... | ... | ... | 3  |

**MEAT.**

The following table shows the number of animals slaughtered and inspected at the public abattoirs and private slaughterhouses in the Borough, with the diseased conditions grouped under two heads :—

- (1) Carcases affected with disease other than tuberculosis ; and
- (2) Carcases found to be affected with tuberculosis only.

**Carcases Inspected and Condemned.**

|                                                                                                       | Cattle<br>excluding<br>Cows | Cows  | Calves | Sheep<br>and<br>Lambs | Pigs  |
|-------------------------------------------------------------------------------------------------------|-----------------------------|-------|--------|-----------------------|-------|
| Total number killed<br>and inspected ...                                                              | 946                         | 8,765 | 4,204  | 12,583                | 3,190 |
| <b>All Diseases except<br/>Tuberculosis :</b>                                                         |                             |       |        |                       |       |
| Whole carcases<br>condemned... ..                                                                     | —                           | 25    | 33     | 4                     | 5     |
| Carcases of which<br>some part or organ<br>was condemned ...                                          | 19                          | 1,917 | 2      | 107                   | 8     |
| Percentage of the<br>number inspected<br>affected with disease<br>other than tuber-<br>culosis ... .. | 2·0                         | 22·15 | 0·83   | 0·88                  | 0·41  |
| <b>Tuberculosis only :</b>                                                                            |                             |       |        |                       |       |
| Whole carcases<br>condemned... ..                                                                     | 1                           | 232   | 10     | 1                     | 6     |
| Carcases of which<br>some part or organ<br>was condemned ...                                          | 25                          | 1,974 | 1      | —                     | 65    |
| Percentage of the<br>number inspected<br>affected with tuber-<br>culosis ... ..                       | 2·74                        | 25·16 | 0·26   | 0·008                 | 2·22  |

## WATER SUPPLY.

The Water Supply of the Borough is derived from moorland drainage grounds which have been cleared of farms, and with one or two exceptions, of public footpaths. The water has generally been of an excellent quality and has been adequate in quantity for all purposes. The raw and the filtered waters were examined chemically once a month and bacteriologically once a week throughout the year.

The number of water examinations made during the year was 705. Of this number, 237 were samples of the raw waters and 237 of filtered and treated waters sampled at the filter stations. The results of the examinations are as follows :—

### 1. BACTERIOLOGICAL.

(a) AGAR COUNT. (Total number of organisms of all types growing on Agar per ml. at 37°C.)

| No. of Samples      | Average Agar Count |
|---------------------|--------------------|
| 237 Raw Waters      | 38                 |
| 237 Filtered Waters | 2                  |

### (b) B. COLI.

| No. of B. Coli<br>per 100 mls. | Raw Waters   |        |                      | Filtered Waters |        |                      |
|--------------------------------|--------------|--------|----------------------|-----------------|--------|----------------------|
|                                | Total<br>No. | Faecal | aerogenes<br>cloacae | Total<br>No.    | Faecal | aerogenes<br>cloacae |
| 0                              | 4            | —      | —                    | 234             | —      | —                    |
| 1                              | 5            | 1      | 4                    | 2               | 1      | 1                    |
| 2                              | 12           | 4      | 8                    | 0               | 0      | 0                    |
| 4                              | 13           | 4      | 9                    | 1               | 0      | 1                    |
| 5                              | 4            | 0      | 4                    | 0               | 0      | 0                    |
| 6                              | 9            | 2      | 7                    | 0               | 0      | 0                    |
| 8                              | 3            | 0      | 3                    | 0               | 0      | 0                    |
| 9                              | 35           | 24     | 11                   | 0               | 0      | 0                    |
| 10                             | 2            | 2      | 0                    | 0               | 0      | 0                    |
| 20                             | 43           | 25     | 18                   | 0               | 0      | 0                    |
| 40                             | 33           | 25     | 8                    | 0               | 0      | 0                    |
| 60                             | 28           | 22     | 6                    | 0               | 0      | 0                    |
| 80                             | 20           | 18     | 2                    | 0               | 0      | 0                    |
| 100 +                          | 26           | 24     | 2                    | 0               | 0      | 0                    |

Standards adopted—0 Good

1—2 Tolerable

2—4 Unsatisfactory

above 4 Bad

(c) CL. WELCHIL.

|                 | No. of samples | Positive in 50 mls. |
|-----------------|----------------|---------------------|
| Raw waters      | 237            | 42                  |
| Filtered waters | 237            | 0                   |

## 2. CHEMICAL.

Examinations were made of 57 samples of raw water and 57 samples of filtered water. The following table shows the averages of the various findings :—

|                                      | Raw Waters<br>Parts per 100,000 | Filtered Waters<br>Parts per 100,000 |
|--------------------------------------|---------------------------------|--------------------------------------|
| Total Solids ... ..                  | 9·48                            | 9·36                                 |
| Free Ammonia ... ..                  | 0·002                           | 0·001                                |
| Albuminoid Ammonia ... ..            | 0·002                           | 0·001                                |
| Nitrogen as Nitrates... ..           | 0·008                           | 0·006                                |
| Nitrogen as Nitrites ... ..          | none                            | none                                 |
| Chlorine as Chlorides ... ..         | 1·18                            | 1·17                                 |
| Acidity ... ..                       | none                            | none                                 |
| Oxygen absorbed in 3 hrs. at 15·5°C. | 0·136                           | 0·073                                |
| Poisonous Metals (Lead, etc.) ...    | none                            | none                                 |
| Suspended Matter ... ..              | trace                           | none                                 |
| Odour ... ..                         | none                            | none                                 |
| Total Hardness in Degrees ... ..     | 3·10                            | 3·10                                 |

The Waterworks Engineer states that the water showed no liability of contamination by lead arising from plumbo-solvency. The results of analyses for plumbo-solvency are as follows :—

|                     | No. of Samples | Plumbo-solvency        |
|---------------------|----------------|------------------------|
| Raw Waters ...      | 237            | 0·09 parts per 100,000 |
| Filtered Waters ... | 237            | 0·07 „ „               |

No action was required to be taken in respect of any form of contamination. No water was supplied to dwelling houses by means of stand pipes.

## NOTIFIABLE INFECTIOUS DISEASES.

## PREVALENCE AND MORTALITY.

Below are shown the number of cases of notifiable diseases notified in Bolton in 1944 and the number of deaths resulting from each of these notifiable diseases.

## NOTIFIABLE DISEASES (OTHER THAN TUBERCULOSIS) DURING THE YEAR 1944.

| Disease.                                 |     |     |     |     | Total Cases<br>Notified. | Total<br>Deaths. |
|------------------------------------------|-----|-----|-----|-----|--------------------------|------------------|
| Smallpox                                 | ... | ... | ... | ... | —                        | —                |
| Scarlet Fever...                         | ... | ... | ... | ... | 410                      | —                |
| Diphtheria                               | ... | ... | ... | ... | 142                      | 5                |
| Enteric Fever (including<br>Paratyphoid) | ... | ... | ... | ... | —                        | —                |
| Relapsing Fever (Undulant)               | ... | ... | ... | ... | —                        | —                |
| *Pneumonia                               | ... | ... | ... | ... | 97                       | 88               |
| Puerperal Pyrexia                        | ... | ... | ... | ... | 9                        | —                |
| Cerebro-spinal Fever                     | ... | ... | ... | ... | 8                        | 1                |
| Acute Poliomyelitis                      | ... | ... | ... | ... | 1                        | 1                |
| Acute Polioencephalitis                  | ... | ... | ... | ... | —                        | —                |
| Encephalitis Lethargica                  | ... | ... | ... | ... | —                        | 4                |
| Dysentery                                | ... | ... | ... | ... | 2                        | 1                |
| Ophthalmia Neonatorum                    | ... | ... | ... | ... | 13                       | —                |
| Erysipelas                               | ... | ... | ... | ... | 33                       | 1                |
| Malaria                                  | ... | ... | ... | ... | —                        | —                |
| Measles                                  | ... | ... | ... | ... | 1,076                    | 5                |
| Whooping Cough                           | ... | ... | ... | ... | 214                      | 1                |

\*The cases notified are Acute Primary and Acute Influenzal, but the deaths include all forms of Pneumonia.

## Deaths from Infectious Diseases.

The deaths in Bolton attributed to the various epidemic diseases are shown in the following table for the years 1935 to 1944 :—

## CAUSES OF DEATH FROM EPIDEMIC DISEASES.

|                                                 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 |
|-------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Smallpox ... ..                                 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| Scarlet Fever ... ..                            | 3    | 1    | —    | 3    | 1    | —    | 1    | 1    | —    | —    |
| Diphtheria and Memb.<br>Croup ... ..            | 5    | 4    | 23   | 22   | 11   | 17   | 16   | 13   | 6    | 5    |
| Enteric Fever ... ..                            | —    | —    | 1    | 1    | —    | 1    | —    | —    | —    | —    |
| Measles... ..                                   | 6    | 9    | 4    | 10   | 3    | 8    | 3    | 5    | 4    | 5    |
| Whooping Cough ... ..                           | 13   | 8    | 14   | 1    | 4    | 5    | 10   | 1    | 2    | 1    |
| Diarrhoea and Enteritis<br>under 2 years of age | 9    | 8    | 4    | 3    | 14   | 10   | 22   | 34   | 6    | 12   |
| Erysipelas ... ..                               | 5    | 6    | 5    | 1    | 1    | —    | —    | —    | —    | 1    |
| Puerperal Sepsis ... ..                         | 7    | 1    | 2    | 4    | 3    | 4    | 2    | —    | 3    | 3    |
| Cerebro-spinal Fever ... ..                     | 1    | 2    | 2    | 1    | 6    | 1    | 6    | 2    | 4    | 1    |
| Encephalitis Lethargica                         | 5    | 7    | 4    | 7    | 4    | 4    | 1    | 3    | 8    | 4    |
| Influenza ... ..                                | 55   | 35   | 104  | 24   | 42   | 86   | 23   | 21   | 88   | 24   |

## BOROUGH ISOLATION HOSPITAL—ADMISSIONS AND DISCHARGES.

| No. of Patients.        | No. of Patients suffering from the following Diseases : |             |          |                         |                             |                 | Total. |
|-------------------------|---------------------------------------------------------|-------------|----------|-------------------------|-----------------------------|-----------------|--------|
|                         | Scarlet Fever.                                          | Diphtheria. | Measles. | Pulmonary Tuberculosis. | Other Tuberculous Diseases. | Other Diseases. |        |
| Remaining, Dec. 31/1943 | 17                                                      | 39          | —        | 24                      | —                           | 10              | 90     |
| Admitted in 1944 ...    | 324                                                     | 163         | 13       | 70                      | 7                           | 313             | 890    |
| Total No. treated, 1944 | 341                                                     | 202         | 13       | 94                      | 7                           | 323             | 980    |
| Discharged in 1944 ...  | 307                                                     | 190         | 5        | 57                      | 8                           | 282             | 849    |
| Died in 1944            | —                                                       | 7           | 1        | 11                      | 4                           | 6               | 29     |
| Remaining, Dec. 31/1944 | 34                                                      | 27          | —        | 23                      | —                           | 18              | 102    |

## DEATHS FROM CANCER, 1944.

The following table shows the age and sex distribution of all persons who were certified as having died of cancer in Bolton in 1944. The table shows also the localization of the disease.

| LESION                                 | SEX |    | AGE    |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
|----------------------------------------|-----|----|--------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|--|--|
|                                        |     |    | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 to 45 | 45 to 50 | 50 to 55 | 55 to 60 | 60 to 65 | 65 to 70 | 70 to 75 | 75 to 80 | 80 to 85 | 85 and up |  |  |
|                                        | M.  | F. | 5      | 10      | 15       | 20       | 25       | 30       | 35       | 40       | 45       | 50       | 55       | 60       | 65       | 70       | 75       | 80       | 85       | 85 and up |  |  |
| BUCCAL CAVITY :<br>Mouth ... ..        | 5   |    |        |         |          |          |          |          |          | 1        |          |          |          |          | 1        | 1        |          | 1        | 1        |           |  |  |
|                                        |     |    |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
| Pharynx ... ..                         | 1   |    |        |         |          |          |          |          |          |          |          |          |          |          |          | 1        |          |          |          |           |  |  |
|                                        |     |    |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
| Tongue ... ..                          | 8   |    |        |         |          |          |          |          |          |          |          |          |          | 1        | 1        | 1        | 2        | 3        |          |           |  |  |
|                                        |     | 1  |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          | 1        |          |           |  |  |
| Other Sites ... ..                     |     |    |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
|                                        |     |    |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
| TOTAL—BUCCAL CAVITY ...                | 14  |    |        |         |          |          |          |          |          | 1        |          |          |          | 1        | 2        | 3        | 2        | 4        | 1        |           |  |  |
|                                        |     | 1  |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          | 1        |          |           |  |  |
| DIGESTIVE ORGANS :<br>Œsophagus ... .. | 6   |    |        |         |          |          |          |          |          |          |          |          |          | 1        |          | 4        | 1        |          |          |           |  |  |
|                                        |     | 1  |        |         |          |          |          |          |          |          |          |          |          | 1        |          |          |          |          |          |           |  |  |
| Stomach ... ..                         | 35  |    |        |         |          |          |          |          |          | 2        |          | 3        | 3        | 5        | 4        | 4        | 7        | 6        | 1        |           |  |  |
|                                        |     | 26 |        |         |          |          |          |          |          |          |          | 1        | 3        | 2        | 3        | 6        | 4        | 6        | 1        |           |  |  |
| Intestines ... ..                      | 19  |    |        |         |          |          |          |          |          |          | 1        |          | 4        | 2        | 2        | 4        | 4        |          | 2        |           |  |  |
|                                        |     | 23 |        |         |          |          |          |          |          |          |          | 2        | 2        | 3        | 2        | 3        | 4        | 7        |          |           |  |  |
| Rectum ... ..                          | 21  |    |        |         |          |          |          |          |          |          |          | 2        |          |          | 2        | 8        | 7        | 1        | 1        |           |  |  |
|                                        |     | 14 |        |         |          |          |          |          |          | 1        | 1        |          | 1        | 4        | 4        | 1        | 2        |          |          |           |  |  |
| Liver ... ..                           | 5   |    |        |         |          |          |          |          |          |          |          | 1        |          |          | 1        |          | 1        | 1        | 1        |           |  |  |
|                                        |     | 9  |        |         |          |          |          |          |          |          |          | 1        |          | 1        | 1        | 4        | 2        |          |          |           |  |  |
| Pancreas ... ..                        | 4   |    |        |         |          |          |          |          |          | 1        |          |          |          |          |          | 2        |          | 1        |          |           |  |  |
|                                        |     | 6  |        |         |          |          |          |          |          |          |          |          |          |          | 2        | 2        | 2        |          |          |           |  |  |
| Other Organs ... ..                    | 1   |    |        |         |          |          |          |          |          |          | 1        |          |          |          |          |          |          |          |          |           |  |  |
|                                        |     |    |        |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |           |  |  |
| TOTAL—DIGESTIVE ORGANS                 | 91  |    |        |         |          |          |          |          |          | 3        | 2        | 6        | 7        | 8        | 9        | 22       | 20       | 9        | 5        |           |  |  |
|                                        |     | 79 |        |         |          |          |          |          |          | 1        | 1        | 4        | 6        | 11       | 12       | 16       | 14       | 13       | 1        |           |  |  |

DEATHS FROM CANCER, 1944.—*continued.*

AGE AND SEX DISTRIBUTION AND LOCALIZATION OF DISEASE.

| LESION                                   | SEX |     | AGE          |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |   |  | 85 and<br>upwds |
|------------------------------------------|-----|-----|--------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---|--|-----------------|
|                                          | M.  | F.  | 0<br>to<br>5 | 5<br>10 | 10<br>15 | 15<br>20 | 20<br>25 | 25<br>30 | 30<br>35 | 35<br>40 | 40<br>45 | 45<br>50 | 50<br>55 | 55<br>60 | 60<br>65 | 65<br>70 | 70<br>75 | 75<br>80 | 80<br>85 |   |  |                 |
| RESPIRATORY ORGANS :<br>Larynx ... ..    | 5   |     |              |         |          |          |          |          |          |          |          | 1        |          | 1        |          |          | 2        |          | 1        |   |  |                 |
|                                          |     |     |              |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |   |  |                 |
| Lungs ... ..                             | 14  |     |              |         |          |          |          |          |          |          | 1        | 3        | 1        | 2        | 4        | 2        | 1        |          |          |   |  |                 |
|                                          |     | 3   |              |         |          |          | 1        |          |          |          |          | 1        |          | 1        |          |          |          |          |          |   |  |                 |
| TOTAL—RESPIRATORY ORGANS                 | 19  |     |              |         |          |          |          |          |          |          | 1        | 4        | 1        | 3        | 4        | 2        | 3        |          | 1        |   |  |                 |
|                                          |     | 3   |              |         |          |          | 1        |          |          |          |          | 1        |          | 1        |          |          |          |          |          |   |  |                 |
| FEMALE GENITAL ORGANS :<br>Uterus ... .. |     | 9   |              |         |          |          |          |          | 1        |          | 1        | 2        |          |          |          | 2        | 3        |          |          |   |  |                 |
| Ovary ... ..                             |     | 4   |              |         |          |          |          |          |          |          | 2        | 1        | 1        |          |          |          |          |          |          |   |  |                 |
| Vulva... ..                              |     | 5   |              |         |          |          |          |          |          |          |          |          |          | 2        |          | 1        | 1        | 1        |          |   |  |                 |
| TOTAL—FEMALE GENITAL<br>ORGANS ... ..    |     | 18  |              |         |          |          |          |          | 1        |          | 3        | 3        | 3        |          |          | 3        | 4        | 1        |          |   |  |                 |
| BREAST ... ..                            |     |     |              |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |   |  |                 |
|                                          |     | 33  |              |         |          |          | 1        |          |          | 1        | 2        | 5        | 1        | 6        | 5        | 6        | 2        | 4        |          |   |  |                 |
| MALE GENITAL ORGANS :<br>Scrotum ... ..  |     | 1   |              |         |          |          |          |          |          |          |          |          |          |          |          | 1        |          |          |          |   |  |                 |
| Penis ... ..                             |     |     |              |         |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |   |  |                 |
| Prostate ... ..                          |     | 13  |              |         |          |          |          |          |          |          |          |          |          |          | 1        | 3        | 4        | 2        | 2        | 1 |  |                 |
| TOTAL—MALE GENITAL ORGANS                |     | 14  |              |         |          |          |          |          |          |          |          |          |          |          | 1        | 4        | 4        | 2        | 2        | 1 |  |                 |
| URINARY ORGANS ... ..                    |     | 4   |              |         |          |          |          |          |          |          |          |          |          |          | 1        | 1        | 2        |          |          |   |  |                 |
|                                          |     | 3   |              |         |          |          |          |          |          |          |          |          |          |          | 1        | 2        |          |          |          |   |  |                 |
| SKIN ... ..                              |     | 2   |              |         |          |          |          |          | 1        |          |          |          |          |          |          |          | 1        |          |          |   |  |                 |
|                                          |     | 2   |              |         |          |          |          |          |          |          |          |          |          |          |          | 1        |          | 1        |          |   |  |                 |
| OTHER OR UNSPECIFIED<br>ORGANS ... ..    |     | 5   |              |         |          |          |          |          | 1        |          |          |          | 1        |          |          | 3        |          |          |          |   |  |                 |
|                                          |     | 8   |              |         | 1        |          |          |          |          |          |          | 1        | 1        |          | 3        | 2        |          |          |          |   |  |                 |
| TOTAL—MALES ... ..                       | 149 |     |              |         |          |          |          |          |          | 6        | 3        | 10       | 8        | 13       | 17       | 32       | 34       | 15       | 9        | 1 |  |                 |
| TOTAL—FEMALES ... ..                     |     | 147 |              |         | 1        |          | 2        |          | 2        | 2        | 9        | 16       | 16       | 19       | 29       | 28       | 18       | 5        |          |   |  |                 |
| TOTAL—BOTH SEXES ... ..                  |     | 296 |              |         | 1        |          | 2        |          | 8        | 5        | 19       | 24       | 29       | 36       | 61       | 62       | 33       | 14       |          | 1 |  |                 |

## TUBERCULOSIS.

The total number of new cases notified in 1944 was 173 as compared with 131 in 1943. One hundred and thirty-six of the new cases were pulmonary tuberculosis and 37 were non-pulmonary tuberculosis.

## AGE AND SEX DISTRIBUTION OF CASES OF TUBERCULOSIS

NOTIFIED IN BOLTON IN 1944 :

## PULMONARY TUBERCULOSIS NOTIFICATIONS.

| SEX       | AGES         |              |               |                |                |                |                |                |                |                |                   | Total |
|-----------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
|           | 0<br>to<br>1 | 1<br>to<br>5 | 5<br>to<br>10 | 10<br>to<br>15 | 15<br>to<br>20 | 20<br>to<br>25 | 25<br>to<br>35 | 35<br>to<br>45 | 45<br>to<br>55 | 55<br>to<br>65 | 65 and<br>upwards |       |
| Males ... | —            | 1            | —             | —              | 7              | 11             | 24             | 16             | 14             | 16             | 1                 | 90    |
| Females   | 1            | —            | —             | 1              | 9              | 11             | 10             | 6              | 2              | 4              | 2                 | 46    |
| Total     | 1            | 1            | —             | 1              | 16             | 22             | 34             | 22             | 16             | 20             | 3                 | 136   |

## NON-PULMONARY TUBERCULOSIS NOTIFICATIONS.

| SEX       | AGES         |              |               |                |                |                |                |                |                |                |                   | Total |
|-----------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
|           | 0<br>to<br>1 | 1<br>to<br>5 | 5<br>to<br>10 | 10<br>to<br>15 | 15<br>to<br>20 | 20<br>to<br>25 | 25<br>to<br>35 | 35<br>to<br>45 | 45<br>to<br>55 | 55<br>to<br>65 | 65 and<br>upwards |       |
| Males ... | 1            | 2            | 5             | 2              | 2              | 1              | 1              | 1              | 1              | —              | —                 | 16    |
| Females   | —            | 2            | 4             | 3              | 2              | 1              | 3              | 3              | 2              | 1              | —                 | 21    |
| Total     | 1            | 4            | 9             | 5              | 4              | 2              | 4              | 4              | 3              | 1              | —                 | 37    |

## DEATHS FROM TUBERCULOSIS.

Eighty-three Bolton residents were certified as having died of tuberculosis during 1944. This compares with 90 in 1943.

Forty-six of these deaths took place in institutions.

The age and sex distribution of those who died from tuberculosis are given in these tables :—

## PULMONARY TUBERCULOSIS DEATHS.

| SEX            | AGES       |               |                |                |                |                |                |                |                   | Total |
|----------------|------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
|                | Under<br>5 | 5<br>to<br>10 | 10<br>to<br>15 | 15<br>to<br>20 | 20<br>to<br>35 | 35<br>to<br>45 | 45<br>to<br>55 | 55<br>to<br>65 | 65 and<br>upwards |       |
| Males ... ..   | —          | —             | —              | 1              | 10             | 10             | 7              | 13             | 5                 | 46    |
| Females ... .. | —          | —             | —              | 1              | 10             | 1              | 1              | 2              | 1                 | 16    |
| Total ... ..   | —          | —             | —              | 2              | 20             | 11             | 8              | 15             | 6                 | 62    |

## NON-PULMONARY TUBERCULOSIS DEATHS.

| SEX            | AGES       |               |                |                |                |                |                |                |                   | Total |
|----------------|------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
|                | Under<br>5 | 5<br>to<br>10 | 10<br>to<br>15 | 15<br>to<br>20 | 20<br>to<br>35 | 35<br>to<br>45 | 45<br>to<br>55 | 55<br>to<br>65 | 65 and<br>upwards |       |
| Males ... ..   | 2          | 1             | 1              | 2              | —              | 1              | 1              | —              | —                 | 8     |
| Females ... .. | 2          | 1             | —              | 1              | —              | 3              | 4              | —              | 2                 | 13    |
| Total ... ..   | 4          | 2             | 1              | 3              | —              | 4              | 5              | —              | 2                 | 21    |

In 10 cases the disease had not been notified during life. Five of these cases died in institutions, and the diagnosis was made after death.

## TUBERCULOSIS DISPENSARY.

The dispensary is open every week-day (except Saturday) from 9 a.m. to 12 noon and on Monday and Friday from 2 p.m. to 5 p.m. The work done at the dispensary is shown by the following figures :—

|                                                                                 |     |     |     |     |     |       |
|---------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-------|
| Total attendances                                                               | ... | ... | ... | ... | ... | 2,771 |
| Total number of patients sent for consultation                                  | ... |     |     |     |     | 640   |
| The results of these consultations were as follows :—                           |     |     |     |     |     |       |
| Number found to have pulmonary tuberculosis                                     | ... |     |     |     |     | 102   |
| Number found to have non-pulmonary tuberculosis                                 | ... |     |     |     |     | 24    |
| Number of cases kept under observation for suspected pulmonary tuberculosis     | ... | ... |     |     |     | 9     |
| Number of cases kept under observation for suspected non-pulmonary tuberculosis | ... |     |     |     |     | —     |
| Number in whom no evidence of tuberculosis was found                            | ... | ... | ... | ... | ... | 505   |
| Number of specimens of sputum examined                                          | ... |     |     |     |     | 407   |
| Total number of cases on the dispensary register :—                             |     |     |     |     |     |       |
| Pulmonary tuberculosis                                                          | ... | ... | ... | ... |     | 415   |
| Non-pulmonary tuberculosis                                                      | ... | ... | ... | ... |     | 206   |
| Total                                                                           |     |     |     |     |     | 621   |
| X-ray examinations made in connection with dispensary work                      |     |     |     |     |     |       |
|                                                                                 | ... | ... | ... | ... | ... | 975   |
| Patients under treatment at the dispensary by artificial pneumo-thorax          |     |     |     |     |     |       |
|                                                                                 | ... | ... | ... | ... |     | 32    |
| Total number of cases on the notification register :—                           |     |     |     |     |     |       |
| Pulmonary tuberculosis                                                          | ... | ... | ... | ... |     | 460   |
| Non-pulmonary tuberculosis                                                      | ... | ... | ... | ... |     | 209   |
| Total                                                                           |     |     |     |     |     | 669   |

## TREATMENT OF TUBERCULOSIS.

Two hundred and sixty-one persons applied for treatment in 1944. Two hundred and thirty-four of these were cases of pulmonary tuberculosis and 27 of non-pulmonary tuberculosis. Five cases were admitted to hospital for observation.

The treatment given was as follows :—

|                              |     |
|------------------------------|-----|
| Residential treatment ... .. | 140 |
| Domiciliary treatment...     | 118 |
| Out-patient treatment...     | 3   |

No patient requiring residential treatment was refused such treatment.

The following table summarizes the residential treatment given during 1944.

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1944.

| INSTITUTION.                                                       | Beds. | Admitted during the year. | Under Treatment 31st Dec. 1944. |
|--------------------------------------------------------------------|-------|---------------------------|---------------------------------|
| Wilkinson Sanatorium... ..                                         | 30    | 38                        | 28                              |
| Borough Hospital ... ..                                            | 24    | 70                        | 23                              |
| *Heswall... ..                                                     | 6     | —                         | —                               |
| *Bolton Royal Infirmary ... ..                                     | —     | 10                        | 2                               |
| *Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry ... .. | —     | 9                         | 2                               |
| *Children's Orthopaedic Hospital, Marple ...                       | —     | 3                         | 3                               |
| *Blencathra Sanatorium, Threlkeld ... ..                           | —     | —                         | 1                               |
| *Liverpool Sanatorium, Frodsham ... ..                             | —     | 4                         | 4                               |
| *Leasowe Open-air Hospital ... ..                                  | —     | —                         | 1                               |
| *Crossley Sanatorium ... ..                                        | —     | 1                         | —                               |
| *Baguley Sanatorium ... ..                                         | —     | 3                         | 1                               |
| *David Lewis Northern Hospital, Liverpool                          | —     | 1                         | —                               |
| *East Lancashire Tuberculosis Colony ...                           | —     | —                         | 1                               |
| *Wrightington Hospital ... ..                                      | —     | 1                         | 2                               |

\*Paid for per user.

### Ultra-Violet Ray Treatment.

During the year, 1,334 attendances were made to the Ultra-Violet Ray Department, the majority of the cases being gland tuberculosis. Thirty new patients were referred; most of them were given ultra-violet ray treatment, and in 2 cases the Kromayer and radiant heat lamps were used.

### Examination of Contacts.

During the year, 51 contacts were examined at the dispensary or in the home; of these, 5 proved to be tuberculous. It is felt that by an extension of this work the aim and duty of the dispensary will be more fully discharged.

### Treatment Allowances.

The number of patients assisted under the Ministry of Health Memorandum 266/T, in respect of which expenditure will be reimbursed by the Exchequer, is as follows:—

|                          |     |     |     |     |     |
|--------------------------|-----|-----|-----|-----|-----|
| Maintenance Allowances   | ... | ... | ... | ... | 127 |
| Discretionary Allowances | ... | ... | ... | ... | —   |
| Special Payments         | ... | ... | ... | ... | 10  |

In addition, 218 patients were assisted by the provision of 37,925 pints of Milk and 132 lbs. of Malt and Oil, free of cost.

### VENEREAL DISEASES.

The tables on pages 39, 40 and 41 show the work carried out at the Bolton Treatment Centre.

**Return relating to all persons who were treated at the Treatment Centre  
at Bolton Public Health Offices during the  
year ended the 31st December, 1944.**

|                                                                                                                                                                                                                                                                                                                                 | Syphilis |     | Soft<br>Chancere |     | Gonorrhœa |     | Non-<br>Venereal or<br>undiagnosed<br>cond tions |     | TOTALS |      |        |      |      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|------------------|-----|-----------|-----|--------------------------------------------------|-----|--------|------|--------|------|------|
|                                                                                                                                                                                                                                                                                                                                 | M.       | F.  | M.               | F.  | M         | F.  | M.                                               | F.  | M.     | F    | Total. |      |      |
| Number of cases on 1st<br>January under treatment<br>or observation... ..                                                                                                                                                                                                                                                       | 238      | 273 | ...              | ... | 194       | 142 | 38                                               | 80  | 470    | (9)  | 495    | 965  | (9)  |
| Number of cases removed<br>from the register during<br>any previous year which<br>returned during the year<br>under report for treatment<br>or observation of the same<br>infection ... ..                                                                                                                                      | 10       | 8   | ...              | ... | 17        | 7   | ...                                              | ... | 27     |      | 15     | 42   |      |
| Number of cases dealt<br>with for the first time<br>during the year under<br>report (exclusive of cases<br>under Item 4) suffering<br>from :—                                                                                                                                                                                   |          |     |                  |     |           |     |                                                  |     |        |      |        |      |      |
| Syphilis, primary ...                                                                                                                                                                                                                                                                                                           | 29       | 14  | ...              | ... | ...       | ... | ...                                              | ... | 29     | (2)  | 14     | 43   | (2)  |
| " secondary ...                                                                                                                                                                                                                                                                                                                 | 8        | 15  | ...              | ... | ...       | ... | ...                                              | ... | 8      |      | 15     | 23   |      |
| " latent in 1st<br>year of infection ...                                                                                                                                                                                                                                                                                        | ...      | 6   | ...              | ... | ...       | ... | ...                                              | ... | ...    |      | 6      | 6    |      |
| " all later stages ...                                                                                                                                                                                                                                                                                                          | 18       | 25  | ...              | ... | ...       | ... | ...                                              | ... | 18     |      | 25     | 43   |      |
| " congenital ...                                                                                                                                                                                                                                                                                                                | 6        | 10  | ...              | ... | ...       | ... | ...                                              | ... | 6      |      | 10     | 16   |      |
| Soft Chancere ...                                                                                                                                                                                                                                                                                                               | ...      | ... | 2                | ... | ...       | ... | ...                                              | ... | 2      |      | ...    | 2    |      |
| Gonorrhœa, 1st year of<br>infection ...                                                                                                                                                                                                                                                                                         | ...      | ... | ...              | ... | 146       | 117 | ...                                              | ... | 146    | (17) | 117    | 263  | (17) |
| " later ...                                                                                                                                                                                                                                                                                                                     | ...      | ... | ...              | ... | 1         | 2   | ...                                              | ... | 1      |      | 2      | 3    |      |
| Non-venereal conditions                                                                                                                                                                                                                                                                                                         | ...      | ... | ...              | ... | ...       | ... | 233                                              | 292 | 233    | (6)  | 292    | 525  | (6)  |
| Conditions remaining<br>undiagnosed at 31st<br>December... ..                                                                                                                                                                                                                                                                   | ...      | ... | ...              | ... | ...       | ... | ...                                              | 3   | ...    |      | 3      | 3    |      |
| Number of cases dealt<br>with for the first time<br>during the year under<br>report known to have<br>received treatment for<br>the same infection, or to<br>have been under observa-<br>tion, at other Centres or<br>Service Hospitals, or by<br>General Practitioners<br>approved under Ministry<br>of Health Circular 2226... | 41       | 8   | ...              | ... | 13        | 2   | 1                                                | 1   | 55     | (30) | 11     | 66   | (30) |
| TOTALS OF ITEMS<br>1, 2, 3, AND 4 ...                                                                                                                                                                                                                                                                                           | 350      | 359 | 2                | ... | 371       | 270 | 272                                              | 376 | 995    | (64) | 1005   | 2000 | (64) |



|                                                                                                                                             | Under 1 year  |                | 1 and under 5 years     |    | 5 and under 15 years |                | 15 years and over    |                                          | Totals |    |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|-------------------------|----|----------------------|----------------|----------------------|------------------------------------------|--------|----|
|                                                                                                                                             | M.            | F.             | M.                      | F. | M.                   | F.             | M.                   | F.                                       | M.     | F. |
|                                                                                                                                             |               |                |                         |    |                      |                |                      |                                          |        |    |
| Number of cases of congenital syphilis in Item 3 above classified according to age periods ... ..                                           | 4             | —              | —                       | 1  | 1                    | 2              | 1                    | 7                                        | 6      | 10 |
| Pathological Work :                                                                                                                         | Microscopical |                |                         |    | Serum                |                |                      |                                          |        |    |
|                                                                                                                                             | for Syphilis  | for Gonorrhoea | Cultural for Gonorrhoea |    | for Syphilis         | for Gonorrhoea | Cerebro-spinal fluid | Others for diagnosis of Venereal Disease |        |    |
| a) Number of specimens examined at, and by the medical officer of, the Treatment Centre ...                                                 | 28            | 2755           | ...                     |    | ...                  | ...            | ...                  | ...                                      | ...    |    |
| b) Number of specimens from patients attending at the Treatment Centre sent for examination to an approved laboratory (if available) ... .. | ...           | ...            | 1                       |    | 1965                 | 508            | 4                    | ...                                      | ...    |    |

**Statement showing the services rendered at the Treatment Centre during the year, classified according to the areas in which the patients resided.**

| Name of County or County Borough (or Country in the case of persons residing elsewhere than in England and Wales) to be inserted in these headings. | Bolton     | Blackburn | Blackpool | Burnley | Bury  | Liverpool | Manchester | Preston | Rochdale | Salford | St. Helens | Warrington | Wigan | Lancs. C.C. | Total       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|-----------|---------|-------|-----------|------------|---------|----------|---------|------------|------------|-------|-------------|-------------|
| Number of cases from each area included under the following headings in Item 3 :—                                                                   |            |           |           |         |       |           |            |         |          |         |            |            |       |             |             |
| Syphilis ... ..                                                                                                                                     | 93 (2)     | .....     | .....     | .....   | 1     | .....     | .....      | .....   | .....    | .....   | .....      | .....      | ..... | 37          | 131 (2)     |
| Soft Chancre ... ..                                                                                                                                 | 2          | .....     | .....     | .....   | ..... | .....     | .....      | .....   | .....    | .....   | .....      | .....      | ..... | .....       | 2           |
| Gonorrhoea ... ..                                                                                                                                   | 159 (7)    | .....     | .....     | .....   | ..... | 1         | .....      | .....   | .....    | .....   | 1          | .....      | 1     | 104 (10)    | 266 (17)    |
| Non-venereal and undiagnosed conditions                                                                                                             | 382 (4)    | .....     | .....     | .....   | 1     | 1         | 1          | .....   | .....    | .....   | .....      | .....      | 2     | 141 (2)     | 528 (6)     |
| TOTAL ... ..                                                                                                                                        | 636 (13)   | .....     | .....     | .....   | 2     | 2         | 1          | .....   | .....    | .....   | 1          | .....      | 3     | 282 (12)    | 927 (25)    |
| Total number of attendances of all patients residing in each area                                                                                   | 16777 (85) | 1         | 5         | 3       | 33    | 51        | 10         | 15      | 1        | 6       | 30         | 18         | 130   | 7908 (62)   | 24988 (147) |

NOTE. —Service Cases are included in the above figures and the numbers so included are shewn in brackets.

## REGULATION 33B.

The effect of the Regulation is to make it an offence for any person, who has been indicated as the source of infection by two or more persons under treatment for Venereal Disease, to fail to undergo examination, and if necessary, treatment.

During the year, 45 persons have been notified to the Medical Officer of Health as the source of infection, in each case by one person under treatment for Venereal Disease. One person has been notified as the source of infection in two cases. Regulation 33B gives no power to compel the person who is only cited once as the source of infection to submit to examination and treatment.

All the persons notified to the Medical Officer of Health have been females. One of the Venereal Diseases nurses has been devoting half her time to tracing persons notified under Regulation 33B, and to making contact with patients attending the centre who have been defaulting in their attendances for treatment.

The one woman cited in two instances as the source of infection was found and treated. The nurse has also been working outside the scope of Regulation 33B and has been trying to make contact with the women cited in one instance only as the source of infection. Many difficulties have been encountered. In many cases the information given in the notification is insufficient to identify the woman. A given name only may be available, no address may be known or a public house or some other place of public resort may be the only indication of her whereabouts. When an address is given it often turns out to have been temporary. Of the forty-five women notified, it was only possible to make personal contact with fourteen of whom nine were persuaded to come for examination and treatment.

**ANNUAL REPORT**  
of the  
**PUBLIC ANALYST AND BACTERIOLOGIST**  
for the year ended December 31st, 1944.

The following is the report on the work carried out in the Borough Laboratory.

| SUMMARY.                                                          | Number of<br>Samples. |
|-------------------------------------------------------------------|-----------------------|
| Food and Drugs ... ..                                             | 439                   |
| Bacteriological Examinations of Milk ... ..                       | 324                   |
| Analyses for the Waterworks Committee ... ..                      | 705                   |
| Milks from Townleys Hospital ... ..                               | 32                    |
| Bacteriological Examination of Water from Turton<br>U.D.C. ... .. | 2                     |
| Atmospheric Pollution... ..                                       | 51                    |
| Miscellaneous Examinations ... ..                                 | 9                     |
|                                                                   | <hr/> 1,562 <hr/>     |

**PUBLIC HEALTH COMMITTEE.**

**FOOD AND DRUGS.**

|                      | Total. | Genuine. | Adulterated. | Per cent<br>Adulterated. |
|----------------------|--------|----------|--------------|--------------------------|
| Milk ... ..          | 281    | 266      | 15           | 5·34                     |
| Butter ... ..        | 5      | 5        | 0            | —                        |
| Margarine ... ..     | 2      | 2        | 0            | —                        |
| Cheese ... ..        | 2      | 2        | 0            | —                        |
| Lard ... ..          | 4      | 4        | 0            | —                        |
| Coffee ... ..        | 6      | 6        | 0            | —                        |
| Cocoa ... ..         | 3      | 3        | 0            | —                        |
| Sausage ... ..       | 25     | 25       | 0            | —                        |
| Malt Vinegar ... ..  | 15     | 15       | 0            | —                        |
| Spices ... ..        | 17     | 17       | 0            | —                        |
| Baking Powder ... .. | 9      | 7        | 2            | 22·22                    |
| Cereals ... ..       | 38     | 38       | 0            | —                        |
| Spirits ... ..       | 4      | 2        | 2            | 50·00                    |
| Beer ... ..          | 9      | 9        | 0            | —                        |

|               |     |     | Total. |     | Genuine. |     | Adulterated. |     | Per cent.<br>Adulterated |
|---------------|-----|-----|--------|-----|----------|-----|--------------|-----|--------------------------|
| Cyder         | ... | ... | 2      | ... | 2        | ... | 0            | ... | —                        |
| Drugs         | ... | ... | 14     | ... | 14       | ... | 0            | ... | —                        |
| Miscellaneous | ... | ... | 3      | ... | 3        | ... | 0            | ... | —                        |
|               |     |     | 439    | ... | 420      | ... | 19           | ... | 4·33                     |

## MILK.

| Total examined. |     | Genuine. |     | Adulterated |
|-----------------|-----|----------|-----|-------------|
| 281             | ... | 266      | ... | 15          |

All the samples were examined for preservatives and colouring matter. In no case was any found.

The satisfactory quality has been maintained, the average being (exclusive of skimmed milk) for the year :—

| Milk Fat. |     | Non-fatty Solids. |     | Water  |
|-----------|-----|-------------------|-----|--------|
| 3·88%     | ... | 8·80%             | ... | 87·32% |

Minimum limits :—Milk Fat 3·00% ; Non-fatty Solids 8·50%

## BACTERIOLOGICAL EXAMINATION OF MILK.

## PASTEURISED MILK.

|                                    |     |     |     |     |       |
|------------------------------------|-----|-----|-----|-----|-------|
| No. of samples examined            | ... | ... | ... | ... | 13    |
| Average Agar Count per ml.         | ... | ... | ... | ... | 6,613 |
| No. satisfying phosphatase test    | ... | ... | ... | ... | 11    |
| No. satisfying methylene blue test | ... | ... | ... | ... | 13    |

## STERILIZED MILK.

|                                                    |     |     |     |     |    |
|----------------------------------------------------|-----|-----|-----|-----|----|
| No. of samples examined                            | ... | ... | ... | ... | 68 |
| No. of samples which satisfied methylene blue test | ... | ... | ... | ... | 68 |
| No. of samples which satisfied phosphatase test    | ... | ... | ... | ... | 65 |

## TUBERCULIN TESTED MILK.

|                                                       |     |     |     |     |    |
|-------------------------------------------------------|-----|-----|-----|-----|----|
| No. of samples examined                               | ... | ... | ... | ... | 34 |
| No. of samples which satisfied methylene blue test... |     |     |     |     | 32 |
| No. of samples containing B. Coli in 1/100th ml.      | ... |     |     |     | 4  |

The two samples which did not satisfy the methylene blue test decolourised the methylene blue in  $4\frac{1}{2}$  and  $3\frac{1}{2}$  hours respectively.

## ACCREDITED MILK.

|                                                    |     |     |     |     |     |
|----------------------------------------------------|-----|-----|-----|-----|-----|
| No. of samples examined                            | ... | ... | ... | ... | 189 |
| No. of samples which satisfied methylene blue test | ... |     |     |     | 185 |
| No. of samples containing B. Coli in 1/100th ml.   | ... |     |     |     | 10  |

The four samples which did not satisfy the methylene blue test decolourised the methylene blue in  $4\frac{1}{2}$ ,  $4\frac{1}{2}$ ,  $1\frac{1}{2}$ ,  $3\frac{1}{2}$  hours respectively.

## VENDED MILK.

|                                                    |     |     |     |     |    |
|----------------------------------------------------|-----|-----|-----|-----|----|
| No. of samples examined                            | ... | ... | ... | ... | 20 |
| No. of samples which satisfied methylene blue test | ... |     |     |     | 17 |
| No. of samples containing B. Coli in 1/100th ml.   | ... |     |     |     | 2  |

The three samples which did not satisfy the methylene blue test decolourised the methylene blue in  $3\frac{1}{2}$ ,  $4\frac{1}{2}$ ,  $5\frac{1}{2}$  hours respectively.

## MISCELLANEOUS EXAMINATIONS.

- 4 Kit washings.
- 4 Waters.
- 1 Wine.

## EXAMINATIONS FOR THE WATERWORKS COMMITTEE.

|                            |     |     |     |     |     |
|----------------------------|-----|-----|-----|-----|-----|
| Routine water examinations | ... | ... | ... | ... | 705 |
|----------------------------|-----|-----|-----|-----|-----|

Of the above 705 samples, 237 were filtered waters sampled at the Filter Stations. These gave the following results:—

AGAR COUNT (Total No. of organisms of all types per ml. growing on Agar at  $37^{\circ}$  C.):

|                            |     |     |     |   |
|----------------------------|-----|-----|-----|---|
| Average Agar Count per ml. | ... | ... | ... | 2 |
|----------------------------|-----|-----|-----|---|

## B. COLI.

Standards adopted for filtered water at filter stations :—

Number of B. Coli per 100 mils.

0 Good.

1—2 Tolerable.

2—4 Unsatisfactory.

Above 4 Bad.

No. of samples with 0 Typical B. Coli per 100 mils. ... 236 or 99·58%

No. of samples with 1 Typical B. Coli per 100 mils. ... 1 or 0·42%

## C1 WELCHII.

Negative in 50 mils. ... 237 or 100·00%

# Meteorological Summary, 1944

(Compiled at Queen's Park Observatory by E. HENDY, F.R.Met.S.)

| 1944         | Barometer<br>" | Mean<br>Relative<br>Humidity<br>% | Mean of<br>Maximum<br>and<br>Minimum<br>Tempera-<br>ture<br>° | Absolute extremes<br>of Temperature |      |             |        | Sunshine                 |                                |      | Total<br>Rainfall |
|--------------|----------------|-----------------------------------|---------------------------------------------------------------|-------------------------------------|------|-------------|--------|--------------------------|--------------------------------|------|-------------------|
|              |                |                                   |                                                               | Highest<br>°                        | Date | Lowest<br>° | Date   | Total<br>Amount<br>hours | Maximum<br>in one day<br>hours | Date |                   |
| January...   | 30.088         | 90.1                              | 41.99                                                         | 53.1                                | 13   | 24.9        | 11     | 16.5                     | 5.6                            | 4    | 6.159             |
| February...  | 30.157         | 81.5                              | 38.23                                                         | 54.7                                | 2    | 21.3        | 29     | 56.0                     | 8.5                            | 28   | 2.347             |
| March...     | 30.146         | 81.6                              | 40.16                                                         | 63.0                                | 27   | 23.8        | 15     | 86.1                     | 10.0                           | 26   | 0.906             |
| April...     | 29.994         | 78.9                              | 48.59                                                         | 64.2                                | 30   | 30.2        | 1      | 132.3                    | 13.5                           | 25   | 3.173             |
| May...       | 30.111         | 76.0                              | 51.00                                                         | 83.1                                | 29   | 33.4        | 7      | 175.6                    | 14.5                           | 28   | 3.043             |
| June...      | 29.903         | 77.9                              | 53.89                                                         | 73.5                                | 22   | 40.2        | 11     | 144.5                    | 14.7                           | 19   | 3.776             |
| July...      | 29.881         | 83.0                              | 58.85                                                         | 77.0                                | 17   | 48.1        | 16     | 95.4                     | 12.9                           | 17   | 3.985             |
| August...    | 30.001         | 76.7                              | 60.56                                                         | 79.6                                | 7    | 46.2        | 21, 31 | 177.0                    | 13.5                           | 6    | 3.630             |
| September... | 29.987         | 83.3                              | 53.67                                                         | 70.0                                | 18   | 36.4        | 10     | 98.2                     | 9.2                            | 12   | 6.159             |
| October...   | 20.503         | 85.6                              | 47.61                                                         | 60.2                                | 6    | 32.2        | 2      | 77.1                     | 7.8                            | 6    | 5.544             |
| November...  | 29.730         | 88.5                              | 42.18                                                         | 55.0                                | 22   | 28.8        | 28     | 37.6                     | 7.5                            | 9    | 8.191             |
| December...  | 29.926         | 91.0                              | 38.49                                                         | 52.7                                | 17   | 23.0        | 9      | 26.5                     | 5.0                            | 9    | 3.602             |
| Totals...    | 359.427        | 994.1                             | 575.72                                                        |                                     |      |             |        | 1122.8                   |                                |      | 50.512            |
| Averages...  | 29.952         | 82.8                              | 47.98                                                         |                                     |      |             |        | 93.6                     |                                |      | 4.209             |

Rainfall. Average 1887—1944 = 42.685"

